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NPIC/TSG/RED/SDB-018-71

8 June 1971

MEMORANDUM FOR: Acting Chief, Research & Engineering Division, TSG  
SUBJECT : Vibration Investigation on the High Precision Stereo  
Comparator (HPSC)

25X1 1. On 24 May [ ] informed me that they had encountered a vibration problem during the installation and assembly of the HPSC. They could not determine if the source of the vibration originated in the instrument or in the clean room site. [ ] requested support from NPIC in tracing down the source of this vibration since they did not have the instrumentation required for this type work. 25X1

2. On the same day I levied a request on ESD to perform a vibration investigation on the HPSC and the Clean Room Site. [ ] informed me that they could not perform this service with the present ESD equipment and that they did not have the experience required to carry out this type of detailed investigation. He did state that [ ] was presently doing this type of investigation on selected NPIC instruments and that [ ] had the sophisticated equipment required for the tests we requested. 25X1

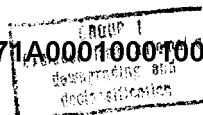
25X1 3. [ ] and I asked [ ] if they would perform some quick response tests on the HPSC on a no cost basis. 25X1 [ ] said they would enjoy taking on the challenge of this assignment on a cost free basis. [ ] performed the tests between 1530 and 1730 on 24 May 1971. They reduced the data overnight and reported the next morning that the problem was in the air bearing stage. The stage had a peak to peak horizontal displacement of 2.4 micrometers at a frequency of 16 2/3 Hertz. 25X1

4. Armed with this information, [ ] traced the source of the vibration to lower than normal air pressure being supplied to the air bearings and to the vibration dampeners. The problem was corrected the same day and the installation schedule was not seriously delayed. 25X1

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25X1 5. The success of this investigation and the preliminary results reported by [ ] on selected NPIC equipment leads me to believe that a detailed vibration investigation of the HPSC - Clean Room Site would be most helpful to NPIC. This vibration testing should be accomplished when the HPSC is fully assembled and in an operational mode.

6. I have prepared a memo, for your signature, to the Chief of ESD requesting that a detailed vibration investigation be performed on the HPSC - Clean Room Site during the T&E period. If the present schedule holds this should start during the latter part of July 1971.

/s/

[ ]  
Chief, Systems Development Branch,  
RED/TSG/NPIC

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NPIC/TSG/RED/SDB [ ] (8 June 71)

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